Arthroscopy in Arthrosis: Is It Worth it?

A case Presentation

MARIUS MOGA¹, MARK EDWARD POGARASTEANU², ANTOINE EDU²
¹Central University Emergency Military Hospital Dr. Carol Davila Bucharest, 134 Calea Plevnei, 010825, Bucharest, Romania
²Carol Davila University of Medicine and Pharmacy Bucharest, 37 Dionisie Lupu Str., 020021, Bucharest, Romania

The role of arthroscopy in incipient and mild arthrosis, even combined with proximal tibial ostetomy, is well known and well documented. On the other hand, its role in the treatment of advanced arthrosis of the large joints, especially the knee, is a subject of controversy. The proponents of the use of arthroscopy in advanced arthrosis claim that meniscectomy, synovectomy, osteophytectomy, chondral lesion stabilization, arthroscopic release, plica and loose body removal greatly improve the quality of life for most patients, especially if followed by the use of viscoelastic injection, by diminishing pain and improving joint range of motion. The opponents claim that, even though the advantages are clear in the cases that refuse arthroplasty, in all the other cases the surgical indication should be total knee arthroplasty, as the clinical relief is temporary, but with all the risks of a surgical intervention. We have conducted an overview of the recent literature, in order to find objective evidence to sustain either point of view. We focused on articles published that included an objective measurement of before and after clinical status through clinical scores and objective measurements. We also focused on the follow-up period and on the evolution of the pathology after arthroscopy.

Keywords: arthroscopy, arthrosis, meniscus

The role of arthroscopy in incipient and mild arthrosis, is well known and well documented [1, 2]. On the other hand, its role in the treatment of advanced arthrosis of the large joints, especially the knee, is a subject of controversy [3, 4].

In clinical practice, the proponents of the use of arthroscopy in advanced arthrosis claim that meniscectomy, synovectomy, osteophytectomy, chondral lesion stabilization / repair (microfractures), arthroscopic release, plica and loose body removal greatly improve the quality of life for most patients, especially if followed by the use of viscoelastic injection, by diminishing pain and improving joint range of motion. The opponents claim that, even though the advantages are clear in the cases that refuse arthroplasty, in all the other cases the surgical indication should be total knee arthroplasty, as the clinical relief is temporary, but with all the risks of a surgical intervention.

We aim to ascertain whether we should perform an arthroscopic procedure in the case of a knee affected by osteoarthritis, as empirical evidence from our own clinical practice suggests that the reisstill a significant amount of pain remaining at the level of the knee, after an arthroscopic procedure, both in short term and medium. The main reason for performing an arthroscopy in the case of a patient diagnosed with arthrosis of the knee is pain, associated with functional impairment.

The challenge we are adressing in this article is the performing of potentially unnecessary surgery, either from a lack of understanding of the pathology, or from reasons pertaining to professional ethics.

The objective of this article is to present a case of knee osteoarthritis treated with arthroscopic surgery, in which the short term results were good, but the medium and long term results were poor, and to re-visit the discussion on whether arthroscopy should or should not be performed in the arthritic knee.

Experimental part

Case presentation

We present the case of a 51 years old female patient working as a nurse that presented in our clinic with left knee pain, gradually increasing in intensity over the last 2 years. Approximately one month before presenting to our clinic the patient reported having sustained a rotational trauma to the knee that exacerbated her pain on the medial side.

The pain was generalized in the knee, but more pronounced on the medial side, corresponding to the internal meniscus (posterior horn) palpation points on the articular line. The knee was stable, and no genu varus or genu valgum was apparent clinically. The joint motion range was 80 degrees, limited by pain. The Numeric Pain Intensity Scale value was 7, as described by the patient.

X-rays of the knee were taken in the hospital Radiology Department, and stored as for protocol. (5) They revealed an Ahlback I stage arthritis in the medial compartment, with no notable malalignment of the knee. Because of the localized nature of the predominate pain the decision was made to perform an MRI of the knee, that revealed a tear of the posterior horn of the medial meniscus and incipient cartilage wear on the internal compartment, with minimal fluid build-up, as well as what appeared to be a loose body. The MRI also showed an absence of substance with the posterior horn of the external meniscus.

From the time of initial presentation and until the time when the MRI was taken (approximately 6 weeks) the patient was treated with rest, partial weight bearing in the periods of maximal pain as needed, etoricoxib 60 mg daily with gastric protection associated with acetaminophen 1-2 g daily (as needed), allowing for self medication in accordance to daily pain intensity and effort levels.

After performing and examining the MRI, the patient continued treatment with kinetotherapy and physiotherapy, with little symptomatic improvement, for two months. Attempts were made to return to an active lifestyle,
including work (8-10 hours of nearly continuous standing), but these failed.

The decision was made to perform an arthroscopy of the knee, under spinal anesthesia. Upon inspection, we found stage II chondral lesions on both the internal and external tibial plateaus, as well as on both femoral condyles. The medial plateau and condyle also exhibited grade III chondral lesions (fig. 1). The lesion of the posterior horn of the medial meniscus was identified and treated with partial meniscectomy.

Upon further examination, the loose body (fig. 3) was found and recovered; it appeared to be a meniscus fragment in origin, and relatively recent, as it had not developed a rounded aspect yet. The lateral meniscus had an absence of substance at the level of the posterior horn, that appeared to correspond in shape and size to the loose body, which may indicate an older associated lesion, clinically asymptomatic as reported by the patient who described no localized pain on the external aspect of the knee.

The knee was drained and the incisions were sutured in a single layer. The spinal anesthesia was followed by pain relief via single-dose 90 mg etoricoxib [6].

Results and discussions

The drain was removed the second day after surgery, and the incisions were dressed every other day until the sutures were removed, 12 days later.

The patient resumed walking the next day after surgery, partial weight bearing on the left knee, with crutches. Antibiotics were continued for 3 days as per protocol, with antiinflammatory drugs when needed [7]. She was discharged from the hospital with an indication to continue the prophylactic treatment with low molecular weight heparin for 7 days or until full weight bearing was achieved.

At the 2 weeks follow-up, the Numeric Pain Intensity Scale value was a reported 3, with most of the pain being anterior, corresponding to the incision sites, some diffuse pain on the medial side, but no localized pain in the meniscus points. The patient had attained full weight bearing and the joint motion range had improved by 20 degrees, to 100 degrees, with minimal pain.

At the 3 months follow-up the joint motion range had improved with another 5 degrees, but the pain level on the

The noted advantage was short term pain relief, especially in young patient with osteoarthritis of the knee, where the intervention was performed as a means to delay reconstructive surgery. Overall, the method is recommended in 5 of the studies [8-12], while the other 2 do not recommend the procedure [13, 14].
We also looked at the results of several reviews on the subject, published in the same timeframe and found using the same search criteria, as high quality evidence. We believe that more and more reviews on the subject will emerge, as arthroscopic procedures develop further and are becoming more and more widespread,  

We conclude that arthroscopic interventions in patients with chronic osteoarthritis that have co-existent degenerative meniscus tears have no conclusive advantage for the patient. Nevertheless, a patient with mild osteoarthritis that associates a recent MRI confirmed meniscus tear, consecutive to a confirmed trauma of the knee, would benefit from an arthroscopic intervention, on the short term.

Acknowledgments: The authors would like to thank the Military Hospital’s staff for the support in writing this article.

References

15. OLTO, O.; V. VOICULESCU; GIBSON, G.; MILEA, L.; BARBILIAN, A. New Approach on Power Efficiency of a RISC Processor, Proceedings Of The 8th International Conference On Applied Informatics And


Manuscript received: 15.07.2018